THIRD TRIMESTER BLEEDING

MARY E. DELMONTE, M.D.

DEWITT ARMY COMMUNITY HOSPITAL

DEPARTMENT OF FAMILY PRACTICE

OBJECTIVES

- Identify the major causes of third trimester bleeding
- Identify the steps needed to evaluate a patient with an antepartum hemorrhage
- Discuss the management of a patient with a third-trimester bleed

BACKGROUND

- Non-pregnant state: uterus receives 1% of cardiac output
- Plasma volume increases by 50%
- CO increases by 30-50%
- Third trimester: uterus receives 20% of an *increased* output
- Real potential for massive hemorrhage

BACKGROUND

- Third trimester bleeding occurs in approximately 4% of patients.
- Approximately 50% will have an inconsequential cause while the remainder will have either a placenta previa or an abruption

DIFFERENTIAL DIAGNOSIS *LIFE THREATENING*

- Placental abruption
- Placenta previa
- Uterine Rupture
- Vasa previa

DIFFERENTIAL DIAGNOSIS *NON-LIFE THREATENING*

- Contact bleeding (trauma)
- Cervical inflammation
- Cervical effacement and dilatation
- Rectal bleeding
- Urinary bleeding
- Coagulation disorders
- Cervical cancer

ABRUPTIO PLACENTA

- Premature separation of the normally implanted placenta
- Occurs in approximately 1 in 120 births
- Accounts for 15% of perinatal mortality

TRIAD

- Uterine bleeding
- Uterine hypertonus and/or hyperactivity
- Fetal distress and/or death

RISK FACTORS

- Smoking
- Poor nutrition
- Cocaine use
- Chorioamnionitis
- Maternal hypertension (>140/90)
- Previous abruption
- Placental insufficiency
- Trauma--blunt abdominal
- Rapid decompression of the overdistended uterus (twins, polyhydramnios)

PATIENT HISTORY

- Pain
  - Varies from mild cramping to severe pain
  - Back pain—think posterior abruption
- Bleeding
  - May not reflect true amount of blood loss
- Trauma
- Other risk factors

PHYSICAL EXAM

- Signs of circulatory instability
  - Mild tachycardia normal
  - Maternal hypotension *never* normal
  - Cap refill, urine output, mentation
  - Shock represents >30% blood loss
- Maternal abdomen
  - Fundal height
  - EFW, fetal lie
  - Location of tenderness
  - Tetanic contrations

LABORATORY

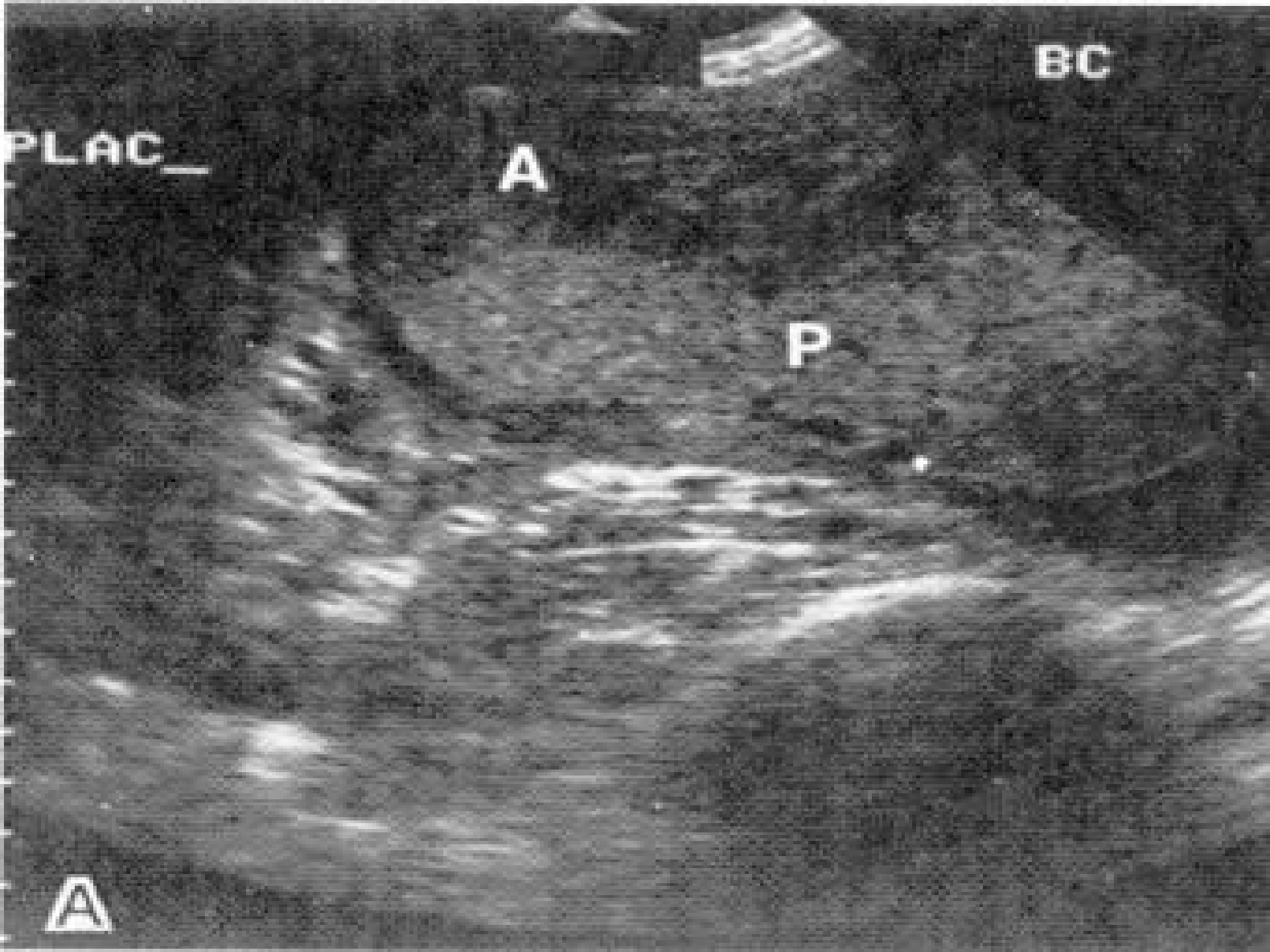
- CBC
- Type and Rh
- Coagulation tests
- Preeclampsia labs if indicated
- Consider drug screen

ULTRASOUND

- Diagnostic for abruption in less than 5 % of case--helpful in *ruling-out* other causes
- Location: prognostic indicator of fetal outcome
  - Subchorionic: placenta-membranes
  - Retroplacental: placenta-myometrium
  - Preplacental: placenta-amniotic fluid

ULTRASOUND SIGNS

- Retroplacental echolucency
- Thickening of the placenta
- Abnormally round “torn edge”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GRADE I:

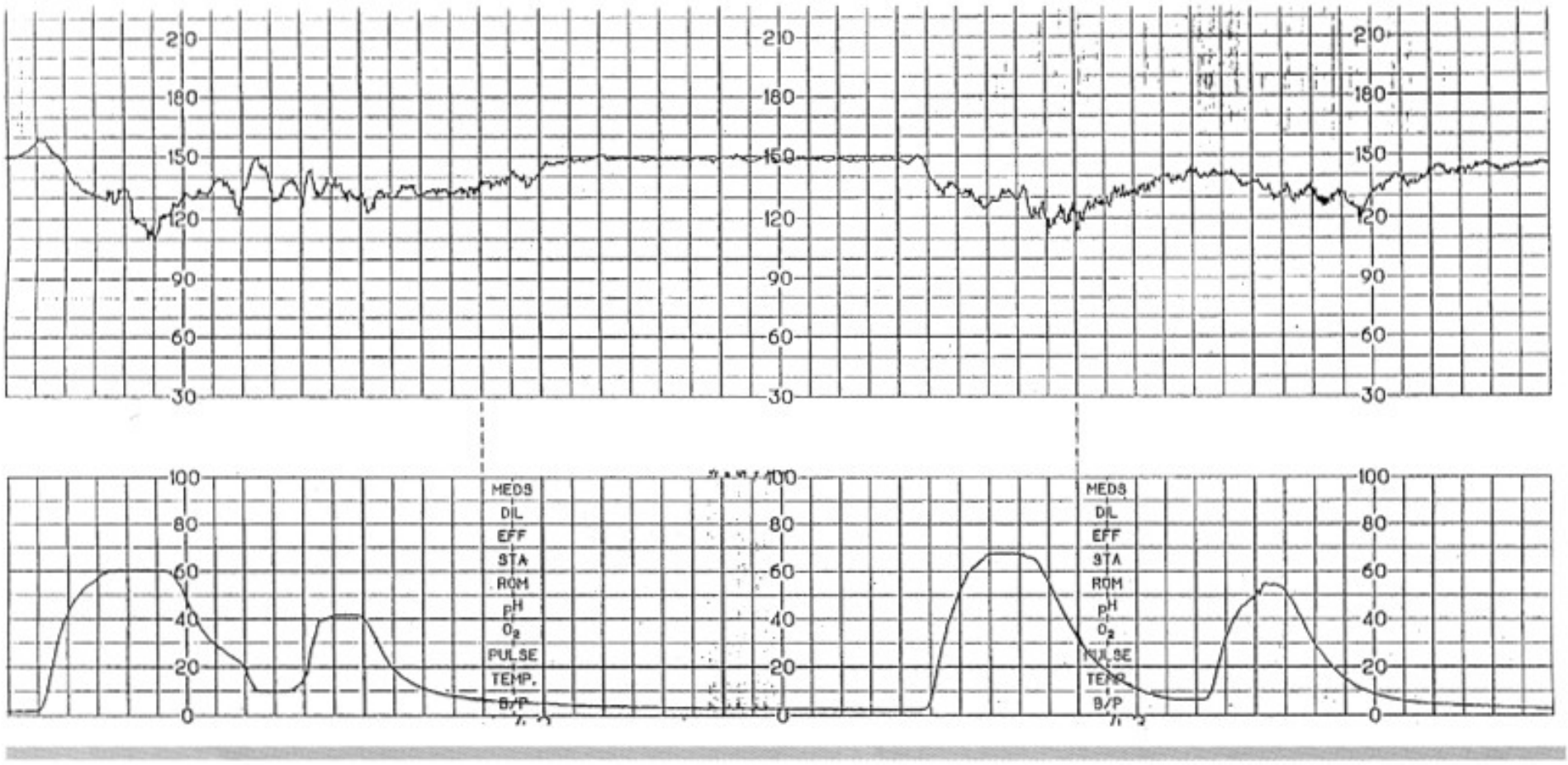
- slight vaginal bleeding
- uterine irritability
- normal maternal blood pressure
- normal maternal fibrinogen
- normal fetal heart rate pattern

TREATMENT--GRADE I

- Often diagnosed at delivery with placental clot
- Controversy over whether pre-term patients with contractions or irritability need chronic tocolytics

GRADE II:

- mild to moderate bleeding
- irritable uterus with tetanic contractions
- normal BP
- elevated pulse rate
- reduced fibrinogen level (150-250)
- fetal distress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TREATMENT--GRADE II

- Stabilize mother
- Maintain urine output > 30 cc/hr and HCT > 30%
- Amniotomy to prevent embolism
- IUPC to document intrauterine pressure
- Expeditious operative or vaginal delivery
- Prepare for neonatal resuscitation

GRADE III:

- moderate to severe bleeding (may be concealed)
- tetanic and painful uterus
- maternal hypotension
- FETAL DEATH

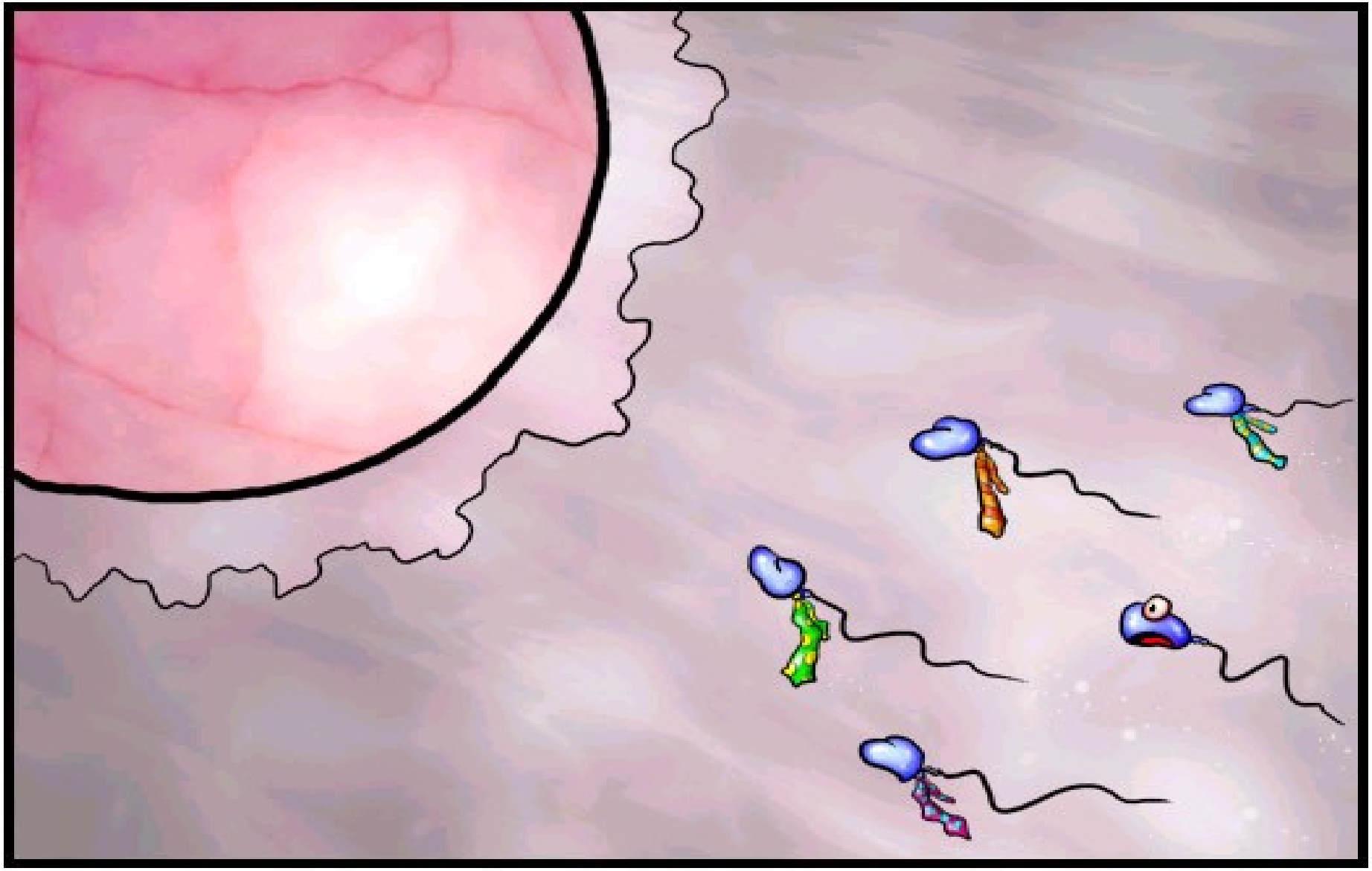
GRADE III

- Grade III a: without coagulopathy
- Grade III b: with coagulopathy
  - fibrinogen reduced to less than 150 mg% with other overt signs of coagulopathy

TREATMENT—GRADE III

- Assess mother for hemodynamic and coagulation status
- Vigorous replacement of fluid and blood products
- Vaginal delivery preferred, unless severe hemorrhage

DOCTOR FUN



"Hey! Was I supposed to wear a tie?"

PLACENTA PREVIA

- Implantation of the placenta over the cervical os
- *Painless* bleeding
- 1 in 200 live births

PLACENTAL MIGRATION

- At 17 weeks gestation, placental tissue will cover the os in 5-15% of all patients
- Differential growth of the lower uterine segment
- 90% will resolve by term

RISK FACTORS

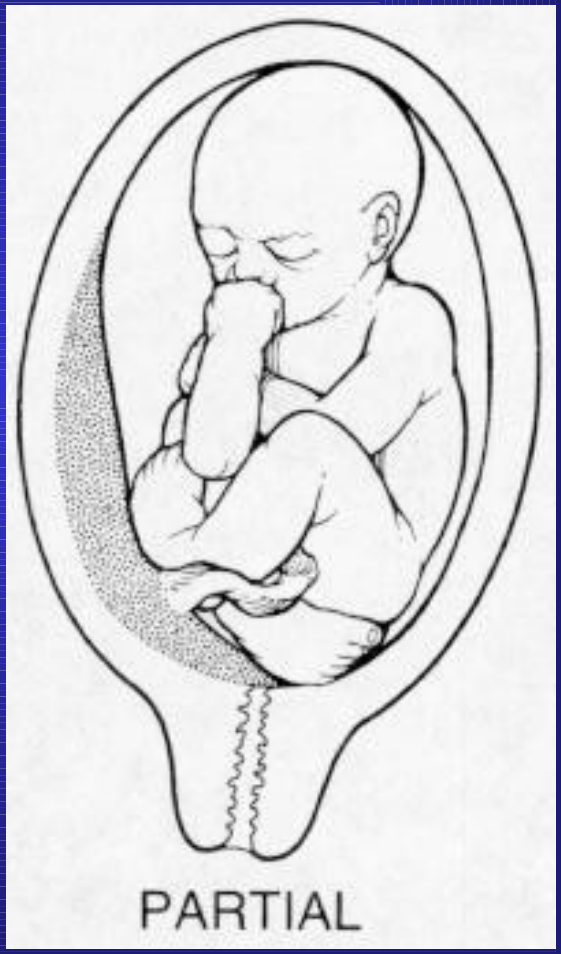
- Maternal age > 35 years
- Smoking
- Increased parity
- Previous previa
- Previous cesarean delivery (1-4%)
- Instrumentation or surgical procedure

COMPLETE PREVIA

- Os completely covered
- Most serious/great est blood loss

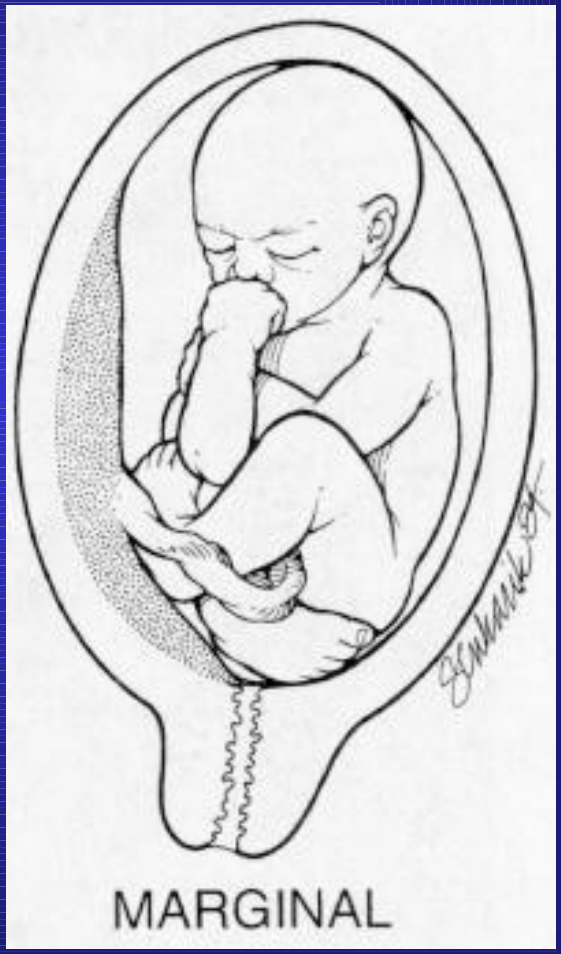
PARTIAL PREVIA

Partial occlusion of the os



MARGINAL PREVIA

Encroachment to the margin of the os

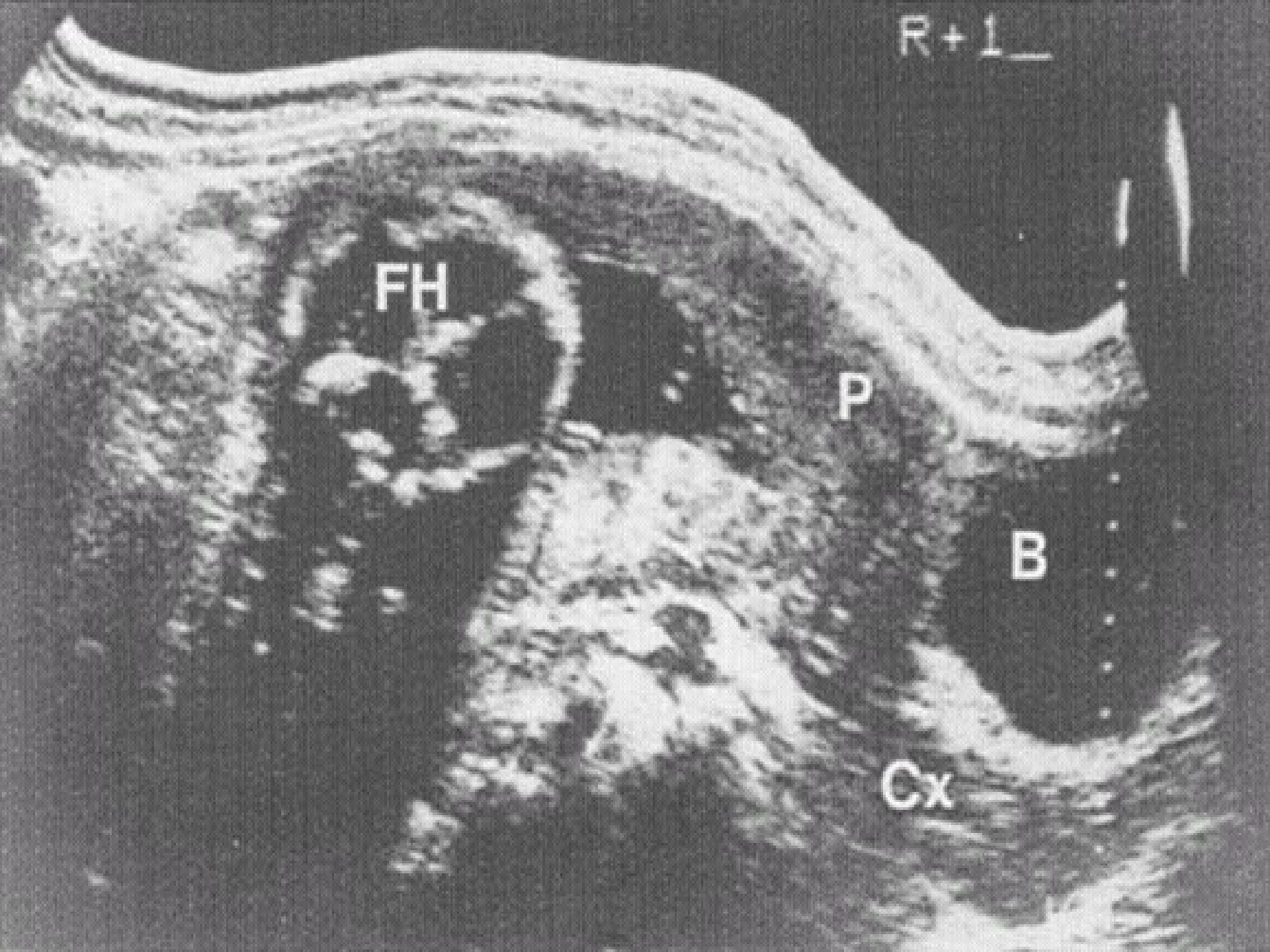


BLEEDING

- Associated with the development of the lower uterine segment in the third trimester
- Placental attachment is disrupted as the lower uterine segment thins
- Uterus in unable to contract adequately to stop the flow from the open vessels

EVALUATION

- Maternal stabilization
- Labs
- Fetal monitoring
- Ultrasound evaluation
- Gentle speculum exam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MANAGEMENT

Dependent on:

- Gestational age of fetus
- Amount of bleeding
- Fetal condition
- Presentation

CESAREAN DELIVERY

- Indications:
  - Complete previa at term
  - Persistent bleeding in pre-term patient

VAGINAL DELIVERY

- Pre-viable gestations
- Intrauterine fetal demise
- Patients with marginal or partial placenta previa in labor with minimal bleeding and ability to tamponade with fetal head

EXPECTANT MANAGEMENT

- Bedrest
  - Hospitalization
  - Home care
- Rh-immune globulin
- Tocolytics
  - Magnesium sulfate
- Corticosteroids

Approximately 25-30% of patients can be expected to complete 36 weeks gestation without labor or recurrence of bleeding

CO-EXISTING PLACENTAL CONDITIONS

- Placenta accreta
  - No prior uterine surgery + previa = 4%
  - Previous c-section + previa = 10-35%
  - Multiple c-sections + previa = 60-65%
  - 2/3 with previa/accreta will require cesarean hysterectomy
- Placenta increta
- Placenta percreta


THE
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UTERINE RUPTURE

- Spontaneous rupture: 0.03 to 0.08% of all delivering women
- Patients with a history of uterine scar: 0.3-1.7%

RISK FACTORS

- Hx of uterine curettage or perforation
- Inappropriate (excessive) oxytocin use
- Trauma
- Previous uterine surgery
- Overdistention
- Intra-amniotic installation
- Gestational trophoblastic neoplasia
- Adenomyosis

ASSOCIATED INTRAPARTUM RISKS

- Vigorous uterine pressure
- Difficult manual removal of placenta
- Placenta increta or percreta

ASSOCIATED MATERNAL MORBIDITY

- Hemorrhage/Transfusion
- Bladder rupture
- Hysterectomy

FETAL MORBIDITY

- Respiratory distress
- Hypoxia
- Acidemia
- Death

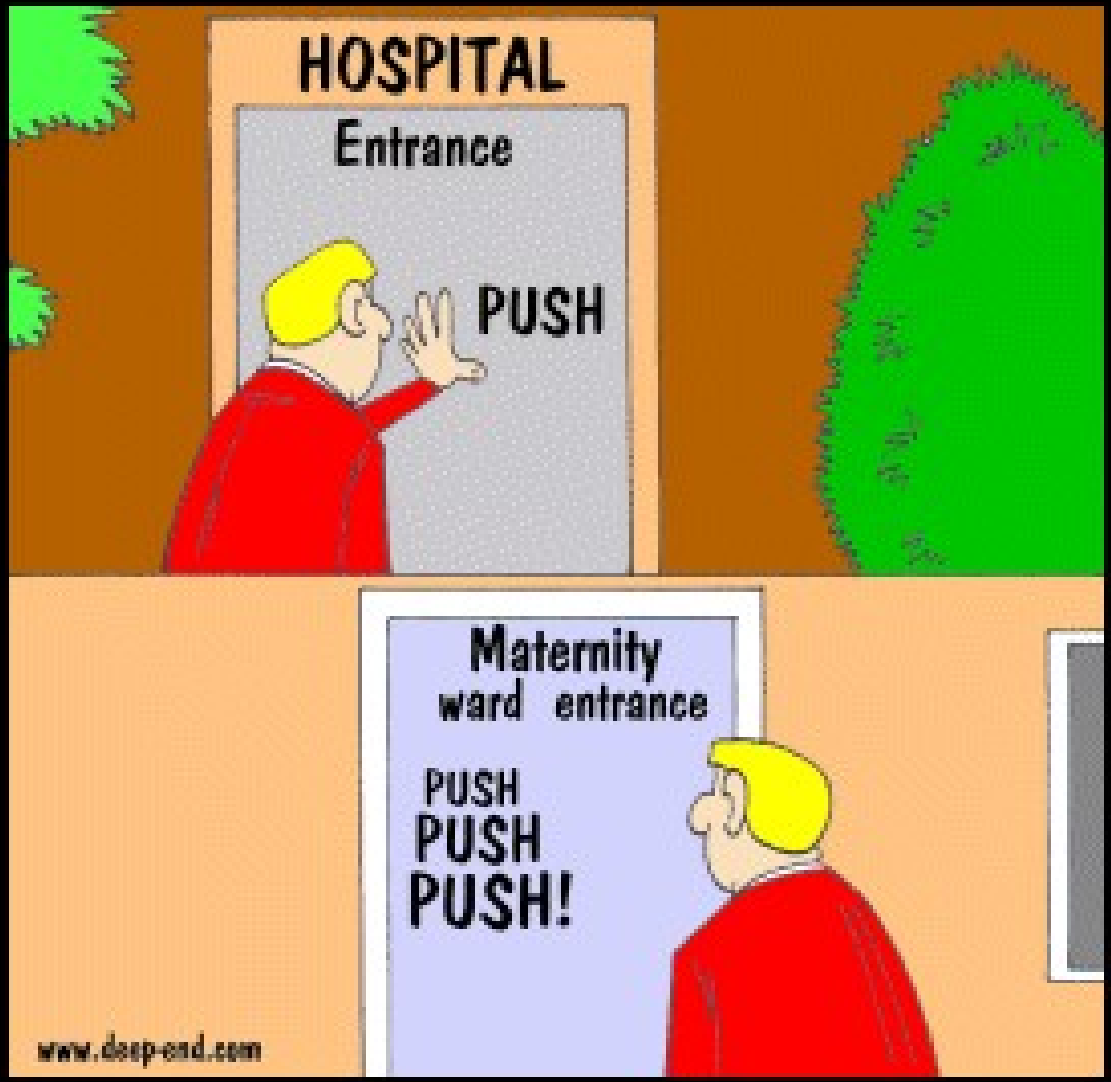
CLASSIC PRESENTATION

- Vaginal bleeding
- Pain
- Cessation of contractions
- Absence of fetal heart rate
- Loss of station
- Palpable fetal parts through abdomen
- Maternal shock

MANAGEMENT

- Maternal position change
- IV fluids
- Discontinuation of pitocin
- O2
- Terbutaline
- C-section

The Deep End by Anton Ballard

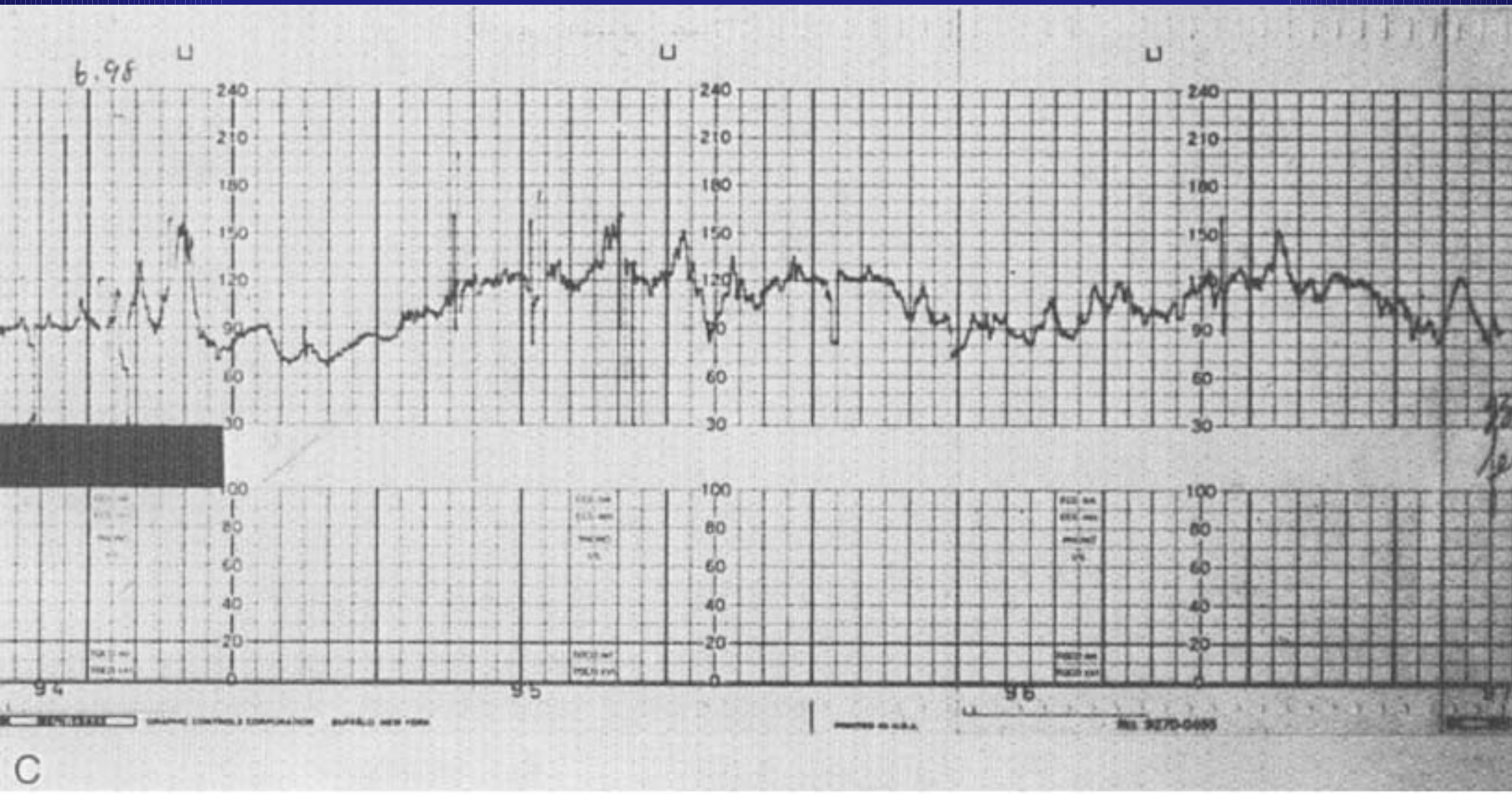


VASA PREVIA

- Rupture of a fetal vessel
- Result of a velamentous insertion of the umbilical cord into the membranes
- Onset of bleeding coincides with rupture of membranes

ALTERATIONS IN THE FETAL HEART RATE

- Initial fetal tachycardia
- Bradycardia
- Intermittent accelerations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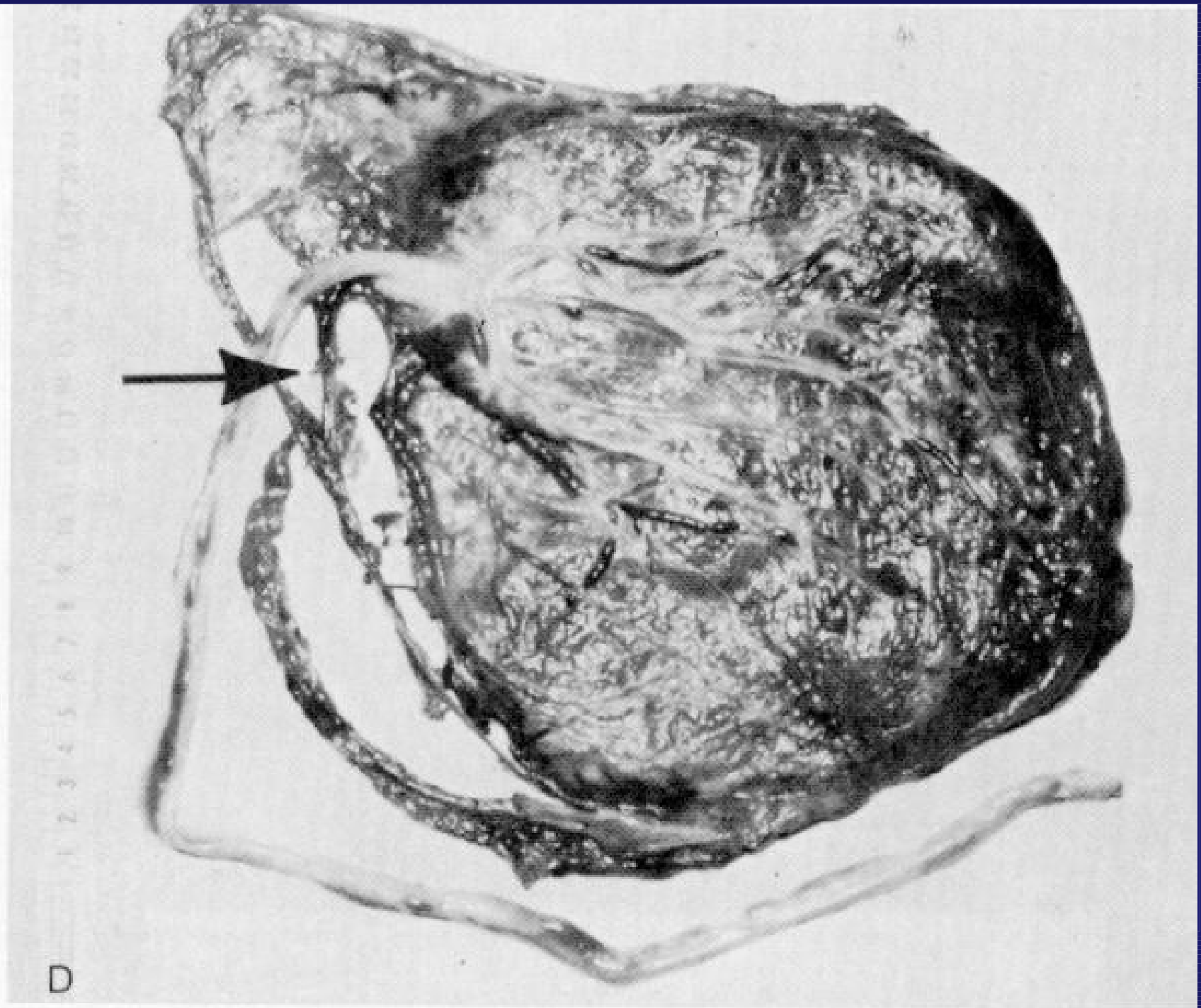
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VASA PREVIA

- High index of suspicion
- Must make diagnosis rapidly and institute definitive therapy and delivery
- Fetal mortality reported to be greater than 50%

APT TEST

- Mix one part of bloody vaginal fluid with 5-10 parts tap water
- Centrifuge 2 minutes
- Mix 5 parts supernatant with 1 part 1% sodium hydroxide
- Centrifuge 2 minutes
- Pink = fetal
- Yellow-brown = maternal

DOWN THE HOME STRETCH…

CONTACT BLEEDING

- Increased vascularity of cervix
- Intercourse can rupture a vessel
- Impressive bleeding
- Diagnosis made when suggested by history and physical and other causes excluded

CERVICAL INFLAMMATION

- Vaginal infection may cause spontaneous bleeding
- Quantity of blood usually small
- Other causes should be excluded

EFFACEMENT AND DILATATION

- Bleeding may be presenting complaint of labor
- Usually accompanied by passage of cervical mucous, although not always

OTHERS (uncommon)

- Cervical cancer
  - Check prenatal pap
  - Visualize the cervix
- Coagulation disorders
  - Initial labs
  - Family history

OTHERS

- Rectal bleeding
  - Suggested by history and physical exam
- Urinary bleeding
  - Suggested by history and physical exam
  - Catheter urinalysis

CASE

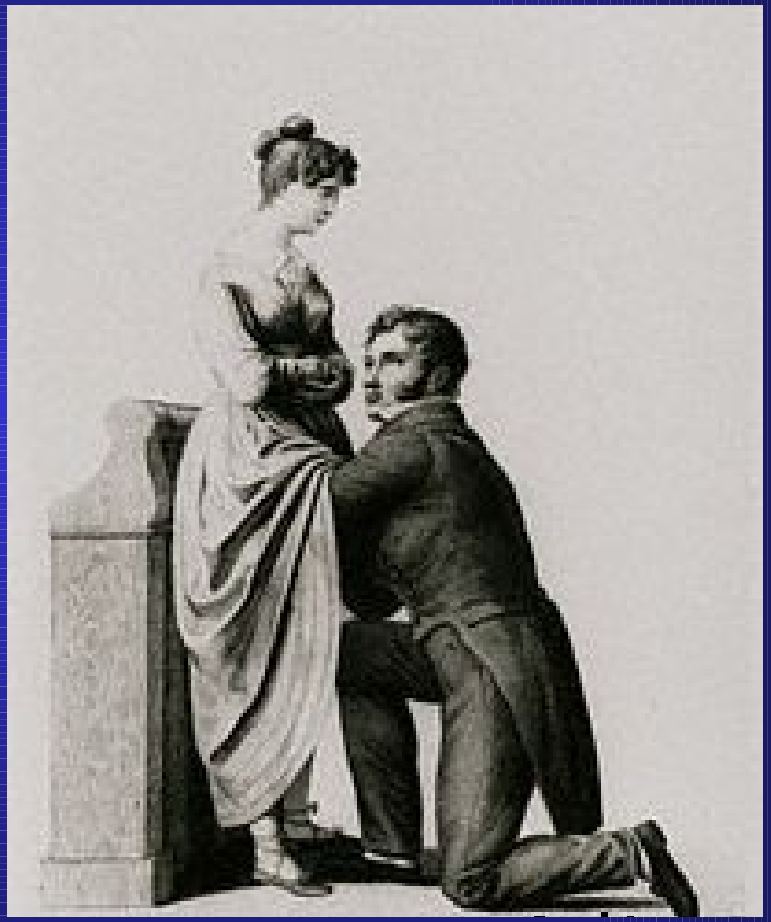
- 32 y.o. G2P1 at 36 weeks EGA by LMP presents to L & D with bright red vaginal bleeding. She is in town for a family reunion, and has no medical record available.

HISTORY

- Past OB History
- Prior episodes of bleeding
- Abdominal pain
- Uterine Contractions
- Recent intercourse
- Tobacco/Substance Abuse
- Past Medical History

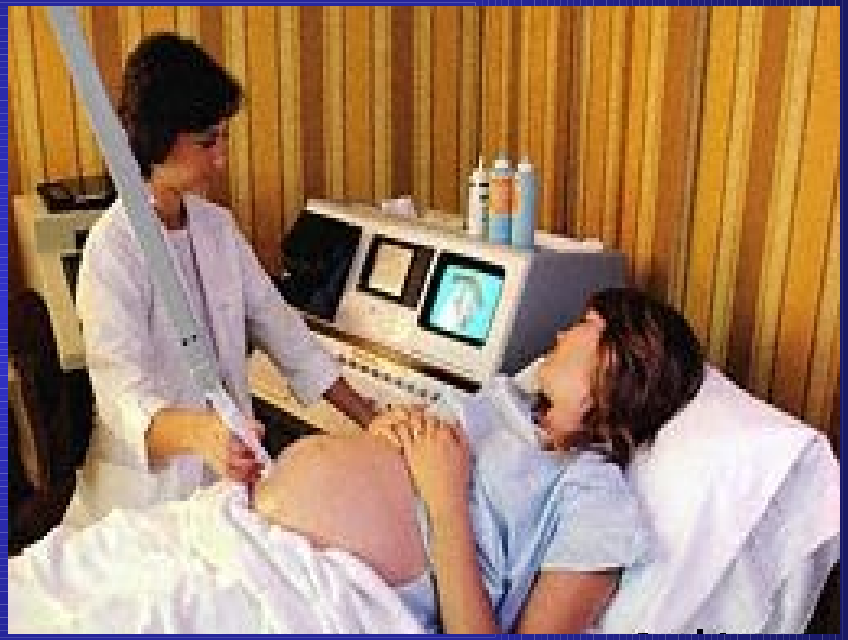
EXAMINATION

- Assessment of uterine contractions and tenderness
- Electronic fetal monitoring
- Gentle speculum exam
- Digital cervical exam after determination of placental location



LABS AND ULTRASOUND

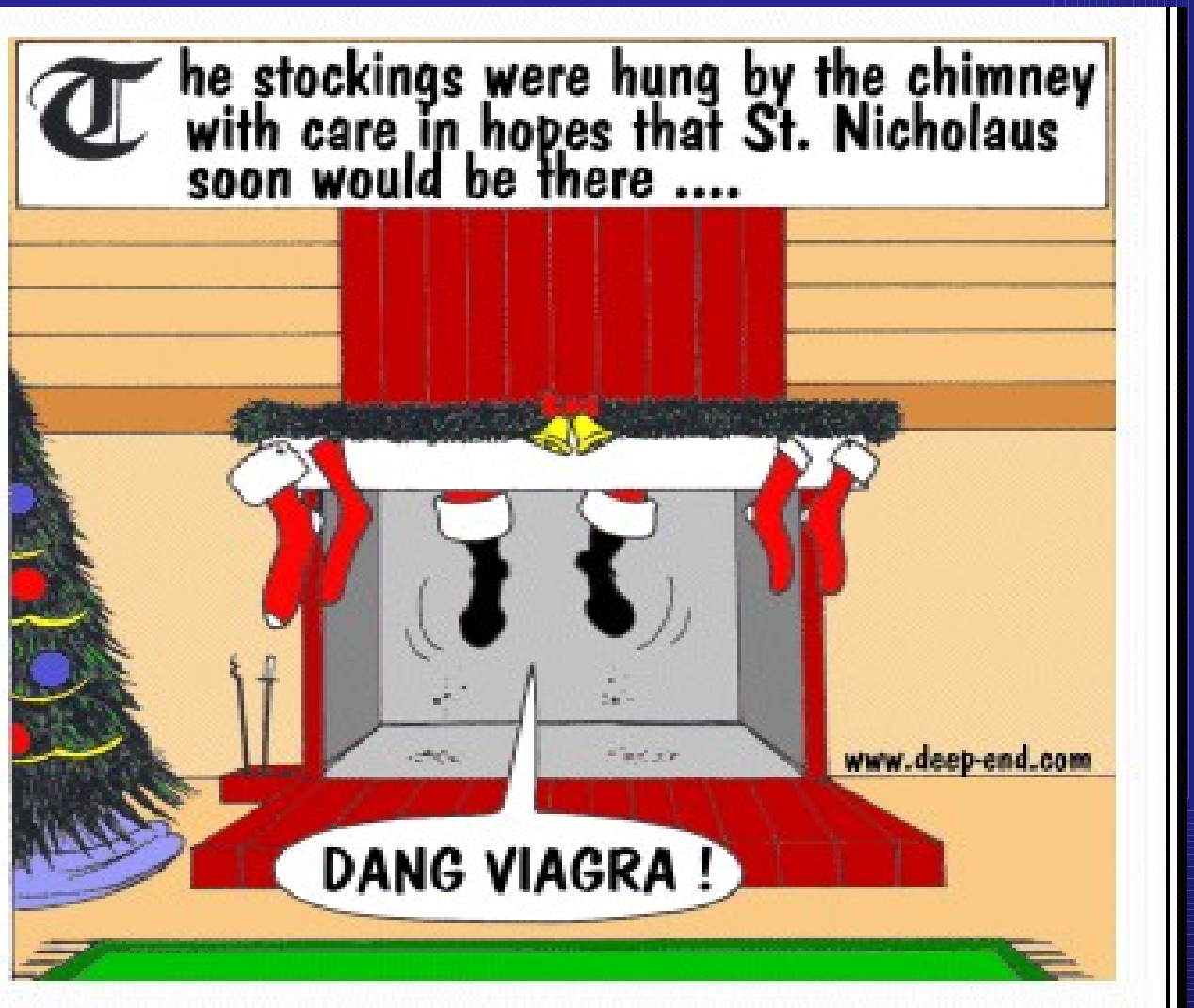
- Ultrasound for placental position
- CBC
- PT/PTT, FDPs, platelet count, fibrinogen
- Type and Cross-match
- Double-check the prenatal labs



TREATMENT

- Maternal Stabilization
  - ABC’s
  - O2
  - IV fluids
  - Blood products
- Delivery
  - Vaginal vs. C-section

QUESTIONS ??


The stockings were hung by the chimney with care in hopes that St. Nicholaus soon would be there ....
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DANG VIAGRA !